

Managing climate extremes in MENA: monitoring and mitigating drought impacts today and tomorrow



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Adapting to climate change:
Assessment, vulnerability and action – SWW 2017

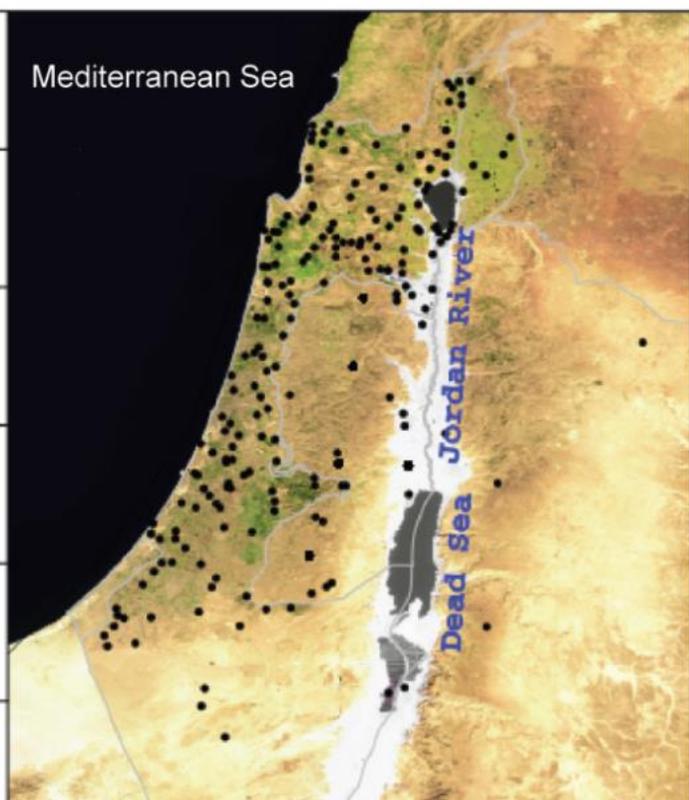




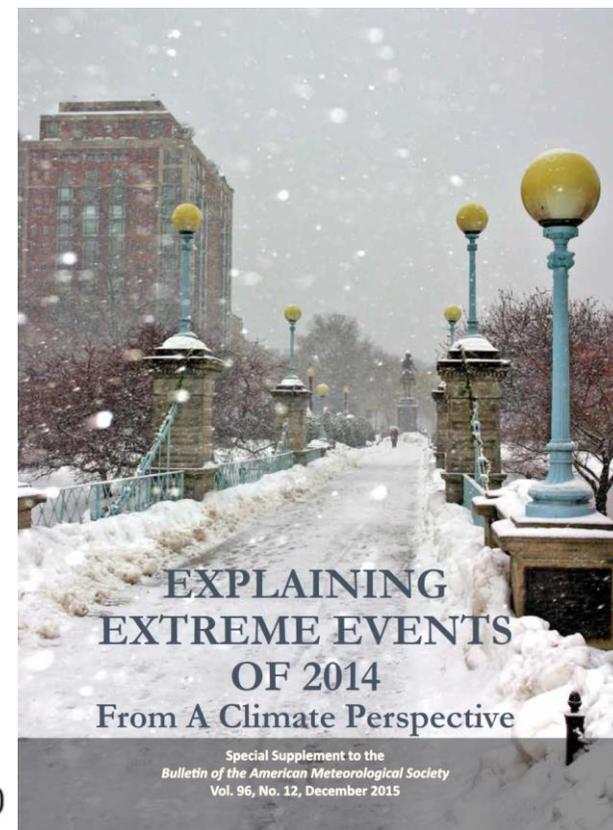
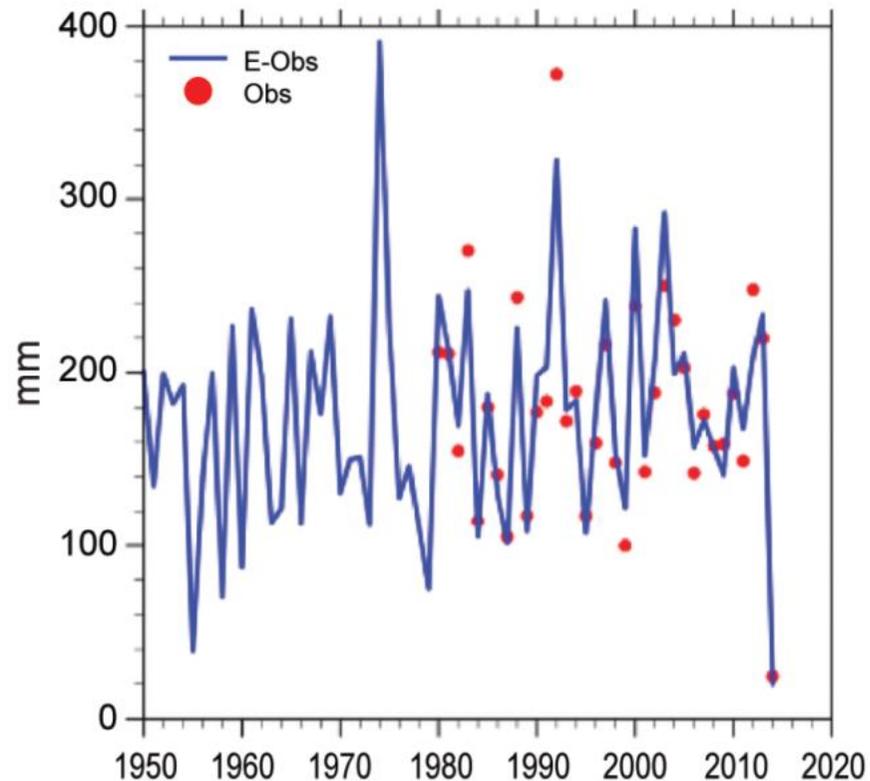
Drought in MENA 2016

Climate change already bringing increased drought

(a)



(b)



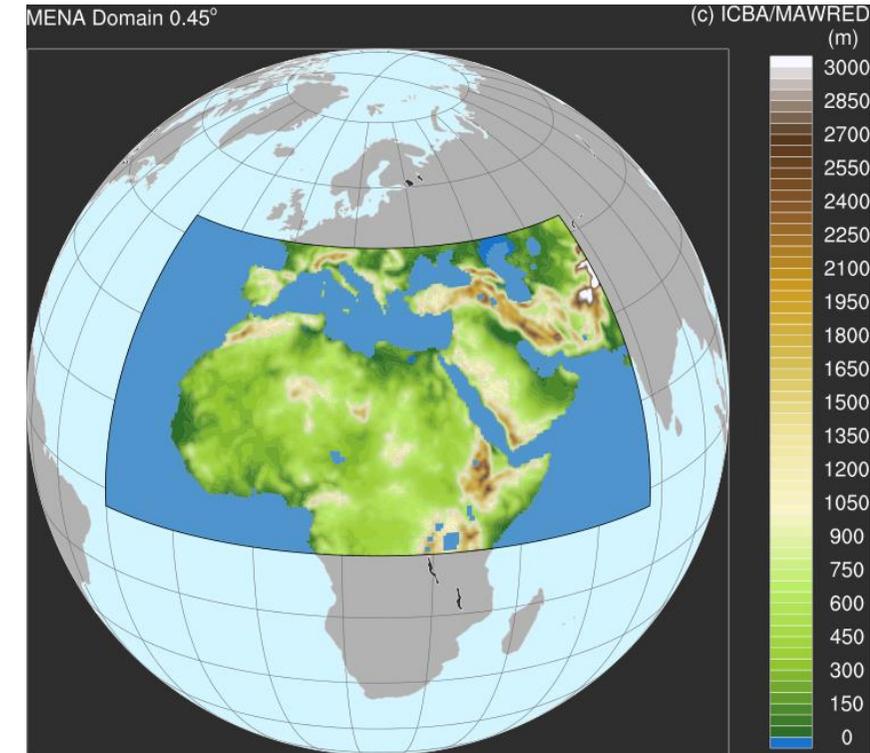
55% natural variability
45% human induced change

Understanding the likely new climate conditions

Future climate conditions

DOMAIN	RESOLUTION
MENA	50 km
Morocco / Tunisia / UAE / Palestine / Lebanon / Jordan / Yemen	15 km

- For **North Africa** and **Middle East** projections from **10** Regional Climate Models



(1951 – 2005)

Current



(2021 – 2100)

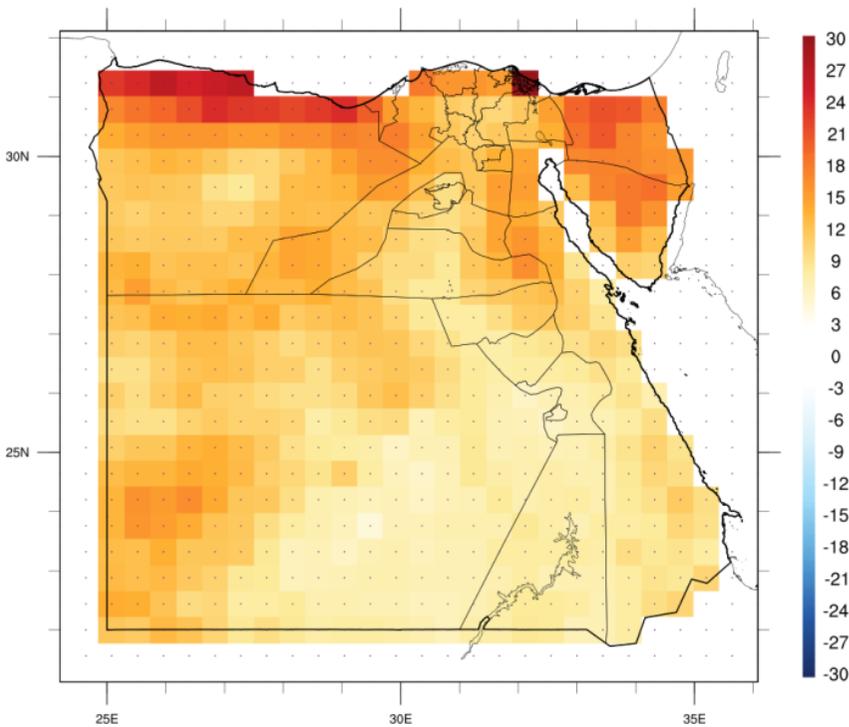
projected

Climate indices for vulnerability assessment

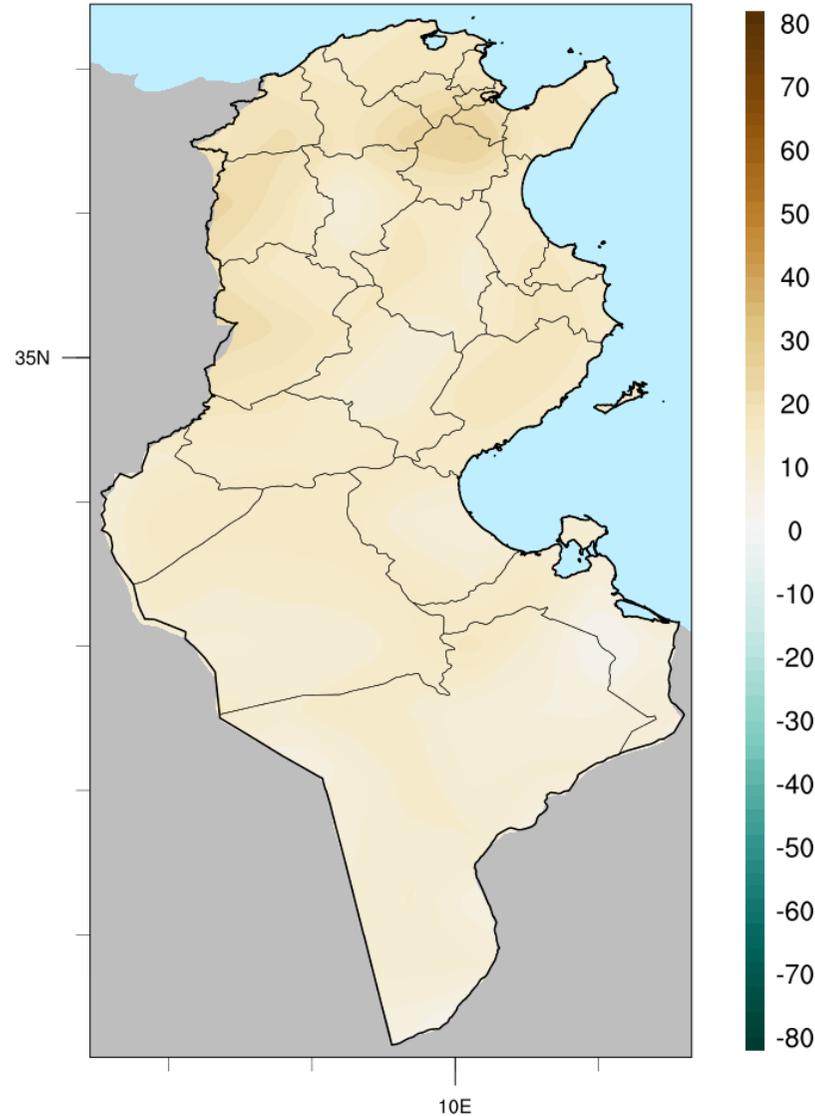
Climate indices at different scales to support adaptation

Annual Consecutive Dry Days Change 2041-2060/1986-2005 for rcp8.5 %

Annual Consecutive Summer Days Change 2031-2050/1986-2005 for rcp8.5 %



Consecutive Summer Days Index



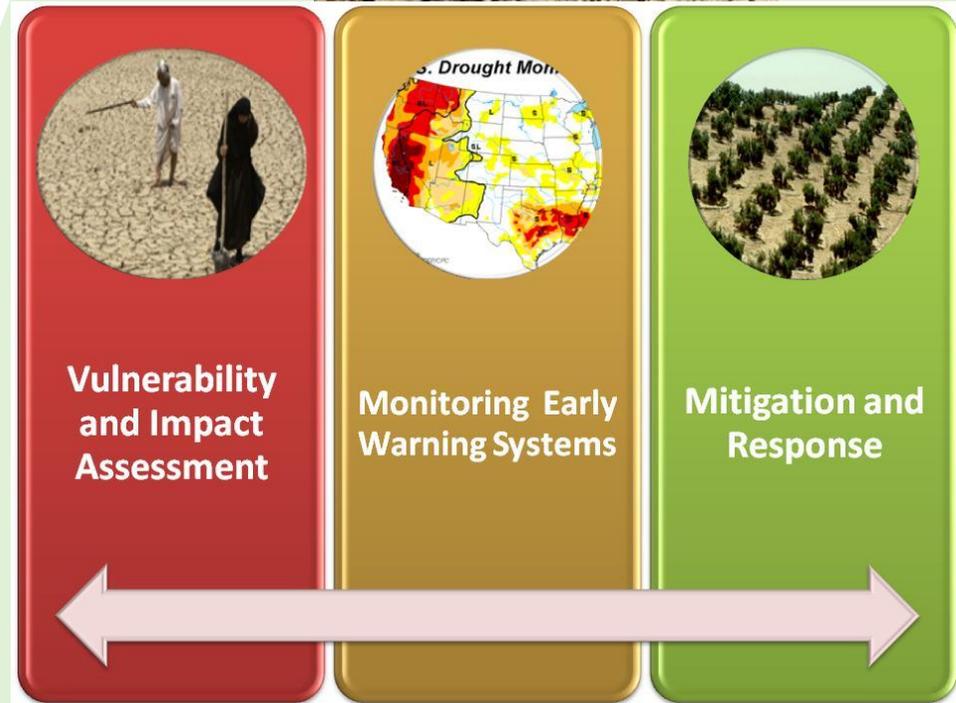
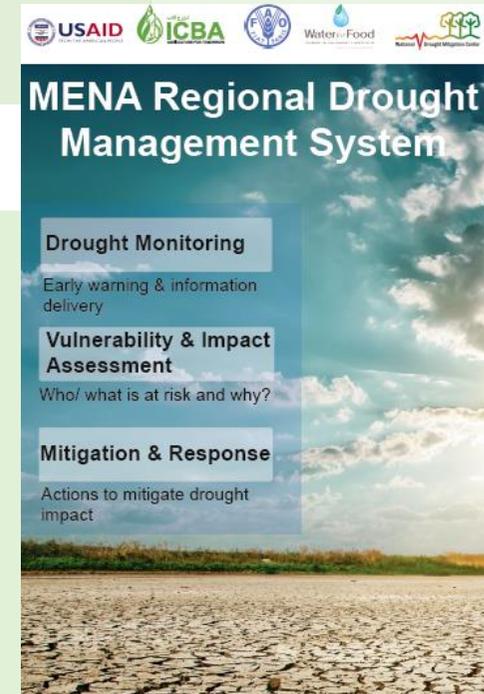
Consecutive Dry Days Index

Managing droughts – today and tomorrow

Monitoring and mitigating

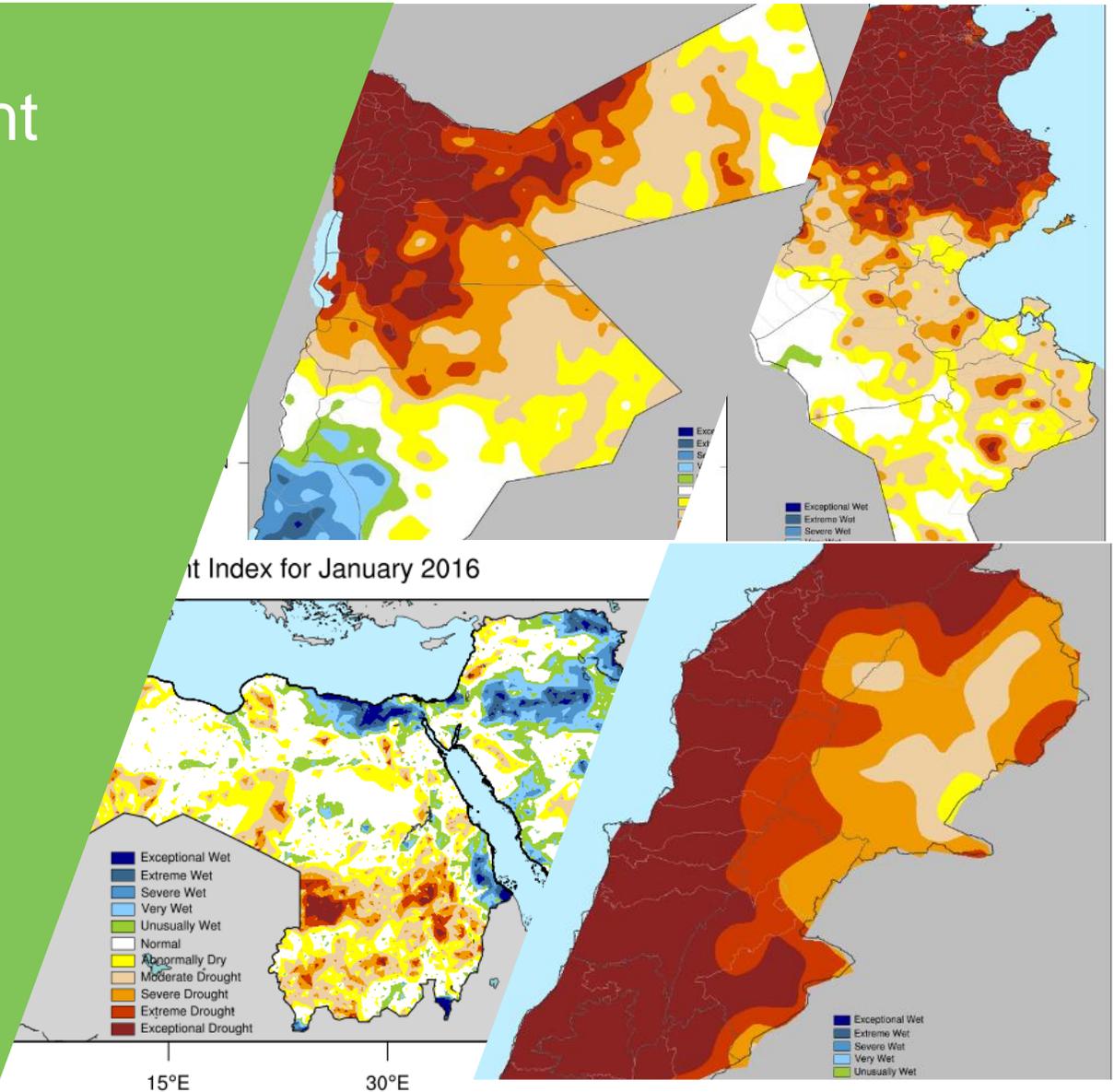
MENA RDMS – Morocco, Tunisia, Lebanon and Jordan

- Water SECURITY initiative with USAID
- Water SCARCITY initiative with FAO, LAS endorsed, UNDP



Composite Drought Index (CDI)

- Monthly map of drought grid cell anomalies for
 - Precipitation
 - Evapotranspiration
 - Soil Moisture
 - Vegetation stress



CDI Technology transfer and capacity building

- >65 users from Tunisia, Jordan, Morocco and Lebanon
- 28 institutions involved in drought management (including NGOs) were represented
- e-groups provides remote technical support)
- Drought maps are now generated locally



Conducting drought vulnerability and impact assessments

- Where, which sectors and communities were most impacted in past droughts
- Where and who is most at risk today and tomorrow?



Prioritize impacts and identify mitigation actions and interventions

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Thank you

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